1.   In a computer system having a computer memory and an object-oriented environment, a method for providing a microfluidic component of a microfluidic circuit, said method comprising:

invoking a first symbol layer object having a first child channel object;

invoking a second symbol layer object having a second child object; and

forming a microfluidic component symbol representing said microfluidic component, said microfluidic component symbol comprising said first child channel object and said second child channel object.

2.   The method of claim 1 wherein said first child channel object is a fluid channel object and said second child channel object is a control channel object.

3.   The method of claim 1 wherein said first child channel object has a child port object.

4.   The method of claim 3 wherein said child port object is used to connect to another port object of another channel object.

5.   The method of claim 1 further comprising placing said microfluidic component symbol on a drawing area, wherein said first symbol layer is matched up with a primary layer.

6.   The method of claim 5 wherein said first child channel object is linked to a channel layer via an associated primary layer.

7.   In a computer system having a computer memory and an object-oriented environment, a method for physically laying out a microfluidic circuit, having a plurality of microfluidic components, said method comprising:

placing a first symbol object representing a microfluidic component of said plurality of microfluidic components, said first symbol object comprising a fluid channel object representing a first fluid channel of said microfluidic component;

placing a connecting fluid channel object on a channel layer, said connecting fluid channel object representing a second fluid channel used to connect two microfluidic components of said plurality of microfluidic components; and

10   linking said fluid channel object to said connecting fluid channel object,

11   wherein said linking representing connecting said first fluid channel to said second fluid

12   channel.

1   8.   The method of claim 7 wherein said linking further comprises linking a

2   component port object of said fluid channel object to a channel port object of said connecting

3   fluid channel object.

1   9.   An object- oriented system for laying out a microfluidic circuit having

2   a plurality of microfluidic components, said system comprising:

3   a symbol object for modeling a microfluidic component of said plurality of

4   microfluidic components, said symbol object comprising a symbol layer object;

5   a first channel object as a part of said symbol layer object;

6   a primary layer object for modeling a layer of said microfluidic circuit, said

7   primary layer object comprising a channel layer object;

8   a second channel object as a part of said channel layer object; and

9   a connecting routine linking said first channel object to said second channel

10   object.

11   10.   A object-oriented system for laying out a microfluidic circuit having a

12   plurality of microfluidic components, on a template having a plurality of layers, said system

13   comprising:

14   a model object representing said laid out microfluidic circuit on said template;

5   a symbol object associated with a microfluidic component of said plurality of

6   microfluidic components said symbol object being part of said model object;

7   a plurality of symbol layer objects associated with a fluid layer and a control

8   layer of said microfluidic component, said plurality of symbol layer objects being part of said

9   symbol object;

10   a component fluid channel object associated with said fluid layer of said

11   microfluidic component, said component fluid channel object being part of a symbol layer

12   object of said plurality of symbol layer objects;

13   a layer object associated with a fluid layer of said plurality of layers, said layer

14   object being part of said model object;

15   a fluid channel object associated with a fluid channel on said fluid layer of

16   said plurality of layers, said fluid channel object being part of said layer object; and

17   a linking model for linking said component fluid channel object with said fluid

18   channel object, when said microfluidic component is connected to said fluid channel on said

19   template.

1   11.   An object- oriented system stored in a computer readable memory,

2   comprising:

3   a model class object for providing a container for objects on a drawing area,

4   said model class object owning a symbol object and a primary layer object;

5   said symbol object for providing a representation of a microfluidic component;

6   and

7   said primary layer object for providing a layer for said drawing area.

1   12.   The object- oriented system of claim 11 wherein said model class

2   object further owns a I/O port object for providing access to channels on said template.

3   13.   The object- oriented system of claim 11 further comprising:

4   said symbol object owning a symbol layer object;

5   said symbol layer object for providing a layer for said microfluidic

6   component, said symbol layer object owning a first child channel object; and

7   said first child channel object for providing a channel for forming microfluidic

8   component, said first child channel object owning a component port object.

1   14.   The object- oriented system of claim 13 further comprising:

2   said primary layer owning a child channel layer object;

3   said channel layer object for providing an intermediate layer for a connecting

4   channel on said drawing area, said channel layer object owning a second channel object; and

5   said second channel object owning a channel port, said channel port object

6   linked to said component port object for providing a connection between said channel of said

7   microfluidic component and said connecting channel.